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In the Matter of:

IE TMI INVESTIGATION INTERVIEW

of Mr. Richard R. Keimig
Chief
Reactor Projects Section No. 1

Trailer #203
NRC Investigation Site
TMI Nuclear Power Plant
Middletown, Pennsylvania

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NRC PERSONNEL:

Bob Marsh
Tim Martin

1 MARSH: The date is May 7, 1979. The time is 1:50 p.m. This is Bob Marsh
2 I'm an inspector--I am an investigator for the U. S. Nuclear Regulatory
3 Commission, assigned to Region III, Chicago, Illinois. This afternoon we
4 are at the USNRC's Region I Headquarters in King of Prussia, Pennsylvania,
5 to conduct an interview of Mr. Richard R. Keimig, who is Chief, Reactor
6 Projects Section No. 1, concerning his knowledge and impressions of the TMI
7 incident on March 28th of this year. Rick, if I may, why don't we begin--
8 would you give us a brief summary of your background, your experience with
9 NRC, and then proceed with how you first received word of the incident up
10 at TMI, and how you came to be up there.

11
12 KEIMIG: Okay, I joined the Atomic Energy Commission in June of '72 and was
13 assigned at that time to the Construction Branch. After about a year I was
14 transferred to the Operations Branch. After about a year I was transferred
15 back to the Construction Branch. In 1976, I guess it was, I was promoted
16 to Section Chief in the Operations Branch, Nuclear Support Section 2.
17 Shortly thereafter, I returned to the Construction Branch as Acting Project
18 Section Chief for Mr. Heishman, who had been promoted to Branch Chief in
19 Region III. I remained in that acting capacity for approximately 4 to 5
20 months, and then returned to Nuclear Support Section 2 in the Operations
21 Branch. After returning to the Operations Branch for about 3 months or so,
22 I was transferred to the Safeguards Branch, as Acting Section Chief, Nuclear
23 Material Control and Accounting, which position I stayed in for approximately
24 9 months. Then returned to the Reactor Operations Branch, Nuclear Support
25 Section 2, for 4 or 5 months, and was then transferred to Reactor Projects
Section No. 1. That's my background.

1 MARSH: You could say you have a broad base of experience.

2
3 KEIMIG: Okay, on March the 28th, I arrived at work at approximately 7:50.
4 I was met at the head of the stairs by the Operations Branch Secretary, who
5 told me that there was an emergency at Three Mile Island, and that the
6 telephone call from the plant was down in George Smith's office. I grabbed
7 my coffee cup on the way down to George Smith's office, filled it, and I
8 got to his office, I guess several minutes after the call had been made.
9 After getting some early information from the plant, we attempted to trans-
10 fer the call to the Incident Response Center and lost the line, telephone
11 line. We eventually reestablished that line from the Incident Response
12 Center about 10 minutes later, I guess--5 to 10 minutes later.

13
14 MARSH: Okay Tim, why don't you pick up then with your

15
16 MARTIN: Rick, would you continue with the scenario of your involvement in
17 this event?

18
19 KEIMIG: Yep, certainly. After we reestablished communications with Three
20 Mile Island Unit 2 and got some more preliminary data from the plant, I
21 proceeded to determine who we should send to the plant, how and when
22 they should be sent. The first people that I sent up there were Jim
23 Higgins, Walt Baunack; shortly thereafter, Bill Raymond, because of his
24 familiarity with the plant and B&W systems. I remained in the Incident
25 Response Center probably all of the day, and I did leave every once in a
while to get coffee, PNIDs, and the FSAR for Three Mile.

1 MARTIN: Rick, before we go on we reestablished phone communication would
2 you say at 8:15.

3
4 KEIMIG: That's approximately the correct time, yes.

5
6 MARTIN: Who were you in communication with at Three Mile Island?

7
8 KEIMIG: I think it was the Operations Supervisor, and his name escapes me
9 at the moment.

10
11 MARTIN: At this time we were not taping the Region I telephone link.
12 Information that was available then is lost to posterity unless you can
13 recall it. So anything that you can recall prior to about 9:15, information
14 that was transmitted to the Region, would be most appreciated.

15
16 KEIMIG: Well, in the early hours there, other than the preliminary infor-
17 mation that they were having problems, that they had a site emergency, and
18 some plant parameters, I can't be of much assistance then because, as I
19 said, I was trying to gather up people to determine who should go out to
20 the plant and look for FSARs and things like that. So that the first hour
21 was kind of fuzzy.

22
23 MARTIN: Who was taking the phone call? Who was, was anyone recording the
24 information that was coming from the licensee?
25

1 KEIMIG: Yes, I believe most of the information was taken down on the
2 Incident Response Forms, the preliminary data.

3
4 MARTIN: All right, and those are held here in the Region?

5
6 KEIMIG: Yes, that's correct.

7
8 MARTIN: Okay, so during this period, you really were managing the Incident
9 Response Center. Is that a fair assessment?

10 KEIMIG: No, managing the Incident Response Center is not a good way to
11 characterize it. I was trying to form the Response Team from the Operations
12 Branch and to get information which we needed in the Response Center, such
13 as FSARs, in order to better understand what we were being told over the
14 telephone.

15
16 MARTIN: Okay, let's carry the scenario from this point on.

17
18 KEIMIG: You mean for the rest of the day?

19
20 MARTIN: Affirmative.

21
22 KEIMIG: Well,...

1 MARTIN: Your involvement, specifically.

2
3 KEIMIG: My involvement, specifically, was, I guess primarily to try to
4 assess what was going on at the plant in the early stages--how much of an
5 emergency there was--and try to respond accordingly. Okay. I was involved
6 in taking some notes later on in the afternoon, Incident Response Forms, as
7 a communicator. Other people were getting tired of talking and listening.

8
9 MARTIN: Okay, most of this is recorded on tape, Rick. At what point did
10 you know that you were going to the site?

11
12 KEIMIG: At about 4:30 that afternoon, or 4:00 that afternoon. Somewhere
13 in the late afternoon, Boyce told me that I should prepare to go to the
14 site.

15
16 MARTIN: What time did you arrive at the site?

17
18 KEIMIG: Okay, I left here about, I left the office here about 6 p.m.,
19 arrived home about 6:30, had a bite to eat, packed a bag, and I left home
20 about quarter after 7ish.

21
22 MARTIN: Were there any communications from the Region during this period
23 you were home to update you on the status of the plant?
24
25

1 KEIMIG: No.

2
3 MARTIN: Okay, so you left home about quarter of 7.

4
5 KEIMIG: Quarter after 7.

6
7 MARTIN: Quarter after 7.

8
9 KEIMIG: Arrived at the Observation Center, Three Mile Island, at about
10 9:00.

11
12 MARTIN: What was the status of the plant at that time? What did they tell
13 you?

14
15 KEIMIG: Okay, I didn't get a status of the plant when I arrived at the
16 Observation Center. What I did then, I went into the Center and met with
17 Phil Stohr to determine what he was doing with the environmental monitoring
18 then--what kind of activities we had as far as environmental monitoring
19 going on at the time. After getting briefed by--Is that too far away?
20 (The microphone)--After getting briefed by Phil, I then met with Jack
21 Herbein in the Observation Center to get the licensee's assessment of where
22 the plant stood. Okay. I really couldn't get very much information from
23 Jack because he was quite busy. I think it was at that time that I estab-
24 lished communication back to the Regional Office with the telephone in the
25 Observation Center to tell them that I was there.

1 MARTIN: Excuse me, Rick, you said that Jack Herbein was quite busy. What
2 was he doing?

3
4 KEIMIG: Jack was, at that time, running the Emergency Control Operation
5 from the Observation Center.

6
7 MARTIN: This is the radiological aspect of their response?

8
9 KEIMIG: Well, the radiological aspect of the response was being worked out
10 of there, but he was in communications with the control room, determining
11 what was going on in the plant also.

12
13 MARTIN: What was the nature of his communication link with Unit 2 control
14 room?

15
16 KEIMIG: I think they had walkie-talkies, as well as hardline telephones.

17
18 MARTIN: Who was assisting Mr. Herbein at this time?

19
20 KEIMIG: There was a room full of people. I really don't know who they all
21 were.

22
23 MARTIN: Did they have good information on the plant there--prints, FSARs,
24 Tech Specs, things like that--or were they apparently relying on memory?
25

1 KEIMIG: I guess outside in the auditorium part of the Observation Center,
2 they did have some prints. I didn't specifically look at them to see if
3 they were PNIDs of the plant or what, but there was an awful lot of paper
4 laying around. In the Emergency Response Room they had, I guess they had
5 some FSARs in there and some Emergency Response type, environmental type
6 information.

7
8 MARTIN: All right, let's continue from this point on in the scenario.

9
10 KEIMIG: Okay. I spent about an hour and a half, maybe two hours all told,
11 at the Observation Center, and then I left the Observation Center and
12 proceeded to the North Gate, trying to get into the plant. It took me
13 quite a while to get in. As a matter of fact, I had to wait until Karl
14 Plumlee showed up, who escorted me into the plant. They were, I would say,
15 probably about a half hour at gate, trying to get into the plant. At
16 first, they tried to get an okay from Herbein to get me into the plant, and
17 he thought I was supposed to be up at the Observation Center. And I said
18 "no I want to go into the plant," and then they were trying to get somebody
19 from the plant to come out to escort me in. They were in the process of
20 doing that when Karl Plumlee showed up. And he had been there for most of
21 the day and was the HP Inspector at the plant previously so he didn't
22 require an escort. And I entered the plant with Karl. We took a few
23 survey measurements as we drove in and went into the Unit 1 control room
24 where the...
25

1 MARSH: Can I ask what the results of your surveys were on your way in?

2
3 KEIMIG: Bob, I don't even remember at this point. There was radiation
4 levels in the parking lot and around the plant that was readily observable,
5 but exactly what the figures were I don't know. Then I went into the Unit
6 1 control room with Plumlee and remained there until about 3:30 in the
7 morning. Let's see... when I got into the Unit 1 control room I spoke with
8 the Unit 1 Plant Superintendent, whose name escapes me right now.

9
10 MARTIN: Seelinger?

11
12 KEIMIG: Seelinger, Jim Seelinger, right, and discussed what was going on
13 at that time with him for about 15 minutes or so. Seelinger then excused
14 himself because he was going over to Unit 2. I spent some time calling the
15 office again from the Shift Superintendent's office. And at that time Karl
16 Plumlee left me, so I did not have an escort. I left the plant, as I said,
17 about 3:30 in the morning, or thereabout, with Walt Baunack, Karl Plumlee.
18 Walt had been in the Unit 2 control room and I did also speak with the Unit
19 2 control room and the Unit 1 control room. I think Bill Raymond left with
20 us also. It may not have been Bill Raymond, it may have been somebody else.
21 There were about 3 people that left at the same time, 3 or 4 maybe.

22
23 MARTIN: All right Rick, let's carry it from, I guess the next morning when
24 you arrived, and comments on observations, things you did, the things the
25 licensee was doing.

1 KEIMIG: One observation that I would like to make at this point, is that
2 from the time we initially established communication with the Unit 2 control
3 room on the morning of March 28th, throughout the early days of the incident,
4 that I found the licensee personnel, the operating personnel, to be extremely
5 calm and apparently having presence of mind, and not running around like
6 chickens with their heads cut off, as they have been characterized by some
7 people. Okay, the next morning I arrived at the Observation Center about
8 9:00, I guess, somewhere around 9... let's see, what in the heck did we do
9 then... that was Thursday morning... Oh, I guess I met with Phil Stohr,
10 who was in the environmental monitoring van, to determine what kind of
11 surveys we were conducting at that time--what the survey teams were doing
12 and what they were finding. What was the rest of your question?

13 MARTIN: What I would like to do is to continue on with the scenario, I am
14 particularly interested in your observations, the operation of their emer-
15 gency plan, the operation of their monitoring teams, communications, just
16 how things were being conducted, who was in charge--that kind of stuff.

17
18 KEIMIG: Okay. As far as their environmental monitoring, I can only relate
19 what I was being fed by Phil Stohr, who was following up on that from the
20 licensee's point of view and also from the NRC's point of view, and that
21 was that everything seemed to be going all right, as far as the survey
22 teams. Observations--there were hoards of reporters at the Observation
23 Center and they severely impacted upon our ability to get around.
24
25

1 MARTIN: What day was this Rick?

2
3 KEIMIG: Well, I was accosted by about five reporters on Wednesday night
4 when I arrived, because--I guess because I was wearing my hard hat, which I
5 will never do again when I respond to an incident. The next day, from the
6 time I got there, well there must have been a half a dozen there when I got
7 there, and many more throughout that day. I am serious about, to the point
8 that it severely impacted on our mobility. There certainly should have
9 been PR people at the Observation Center where all the activity was. I
10 didn't personally subject myself to any interviews by any press people
11 because I realized that there was a lack of communication between the site
12 and our public affairs people, because information that I heard on the
13 radio was not only old information--much of it was inaccurate from what I
14 knew from being at the site. There needs to be some system set up for NRC
15 Public Affairs to give current information to reporters and news media
16 people where the activity is taking place, not from a remote press room in
17 the Capitol Building or the Governor's Mansion, or wherever our public
18 affairs person was. I am sure because of this, the press thought I was
19 being uncooperative, but I did not know what the licensee people were
20 putting out, nor did I know what our people were putting out, other than
21 listening to it on the radio as I drove up to the site. So I didn't think
22 that I was in any position to to further confuse the issue by giving any
23 interviews. My recollection of the first few days at Three Mile Island is
24 somewhat poor because of the long hours that we spent. I don't even remember
25 if that was the day that the Congressional people showed up--I guess that
was Friday... I really don't remember if it was Thursday or Friday.

1 MARSH: While you were up at Three Mile Island, how did you do your duties,
2 what were they? What was your job while you were up there?

3
4 KEIMIG: When I first got up there?

5
6 MARTIN: Yeah, and what did it evolve in to?

7
8 KEIMIG: Okay, when I first arrived at the site--and my marching orders
9 from Boyce Grier was to be the Senior IE person on site, or the Senior NRC
10 person on site. I was relieved of that duty sometime late Thursday after-
11 noon when Dick Vollmer from NRR arrived. They had been agreement in NRC
12 Headquarters that he would take over.

13
14 MARSH: When you first arrived up there did you find an adequate flow of
15 information from the licensee to you? Were you able to get what information
16 you needed?

17
18 KEIMIG: Yes, from the licensee, I was able to get the information that I
19 needed.

20
21 MARSH: Did you have a particular point of contact, or was it just seeking
22 out the proper person each time you needed info?

23
24 KEIMIG: Basically, it was try and find the right person, and talking to
25 him. I knew that plant information was being provided through our telephone

1 lines to the control room. So other than occasionally getting updates on
2 plant status, I didn't really bother doing that.

3
4 MARTIN: Rick, I am going to open it up here...

5
6 KEIMIG: I thought it was pretty much open all along...

7
8 MARTIN: We were trying to lead you down a road to give us the scenario.

9
10 KEIMIG: Yeah.

11
12 MARTIN: I guess at this point, what we'd like to do is open it up. You
13 recognize that we are doing an investigation. We are looking at both the
14 operational and radiological aspects. If you have any insights or facts
15 that you know, or things that you feel might assist us in our efforts, we
16 would appreciate you providing them to us.

17
18 KEIMIG: Well, when you talk about facts I... as I said, my recollection of
19 the first several days up there is really quite jumbled, because I don't
20 really know one day from the next. It was hectic from the point of view
21 that there really weren't enough NRC people at the site to do everything
22 that was being requested to be done from Headquarters and and from this
23 office. We had to provide people to go to Governor briefings, and those
24 people were taken out of the control room, out of there assigned jobs in
25 the control room, to attend these briefings. If they weren't taken off of

1 duty to do that, they should have been sleeping, when instead they were at
2 briefings. There was also the Congressional Contingence that arrived on
3 site, either on Thursday or Friday--I guess it was Friday that they arrived
4 on site--also quite heavily impacted on our operations up there, in that I
5 was personally requested to go to the airport and pick these people up and
6 show them how to get to the site, and to brief them on the latest informa-
7 tion on the way back from the airport. Also, to show them how to get back
8 to the airport, which I didn't do. Maybe if you'd tell me some of the
9 types of things that you might be interested in, Tim.

10
11 MARTIN: I can only give you by example, Rick, operationally we're focussing
12 in on time before you arrived. So that, you probably are not able to
13 provide other than second source.

14
15 KEIMIG: Right.

16
17 MARTIN: The radiological people are very interested in how the event was
18 managed, radiologically, by the licensee during a several week period
19 there. And so if you have any insights, or remember something that might
20 assist them in analyzing the event, we'd appreciate it. But again it's
21 open, and I can't identify the fact that only you know.

22
23 KEIMIG: Yeah, well, it seemed to me from the time I got to the Observation
24 Center on the night of March 28th, that the licensee's survey teams were
25 out and were reporting back quite regularly to the Emergency Control Center
at the Observation Center.

1 MARTIN: We've had confirming reports of that.

2
3 KEIMIG: They seemed to know what they were doing. The people in the
4 Emergency Control Center seemed to know what they were doing.

5
6 MARTIN: Do you know who was managing those groups?

7
8 KEIMIG: No, right off hand, I don't know. I guess Herbein was in overall
9 charge of the entire operation, the entire response.

10
11 MARTIN: Did you normally interface with Mr. Herbein?

12
13 KEIMIG: You mean once I got up there?

14
15 MARTIN: Yes.

16
17 KEIMIG: Other than the first meeting I had when I arrived there I talked
18 to him on several occasions after that but he wasn't specifically one of
19 the people I sought out to get information from. He was quite busy and
20 there were other sources to get this information from, besides bothering
21 him.

22
23 MARTIN: Did you ever interface with Mr. Arnold?
24
25

1 KEIMIG: No.

2
3 MARTIN: How soon did corporate GPU people arrive? Do you have any feel
4 for that?

5
6 KEIMIG: Yeah, there was somebody there that night when I got to the Observa-
7 tion Center.

8
9 MARTIN: At the Observation Center?

10
11 KEIMIG: Yeah. I can't think of who it was, though.

12
13 MARTIN: What about B&W people? Did you ever interface with any of them?
14 Were any of them assisting Mr. Herbein when you first arrived at the Obser-
15 vation Center? When you got to the Control Room, were there B&W people?

16
17 KEIMIG: I really don't know. There was so many people around and I didn't
18 go around asking everybody who they worked for. I know the next day there
19 were some B&W people at the site.

20
21 MARTIN: After arriving on site, when was the first time you got a briefing
22 on the status of the plant?

23
24 KEIMIG: When I had my initial meeting with Herbein.
25

1 MARTIN: Can you remember the content of that discussion or that briefing?

2
3 KEIMIG: It's rather vague, but he related to me the plant parameters at
4 the time and some of the results of the survey teams, as I recall. It's
5 fuzzy whether I got those results from Herbein or whether I got them from
6 Phil Stohr, who was there also. Communications back to this office, for
7 somebody at the in the area of the Observation Center, were very difficult
8 also. There were two phones in the Observation Center which were made
9 available for our use, I guess from the time I got there, because I told
10 Jack Herbein that I needed to call my office--where could I get a phone?
11 And there were two phones in a little side office that he made available
12 and he said we could use them any time we wanted to. Other than that,
13 there was a pay phone outside the Observation Center but that was almost
14 impossible to get to. And the next day, although I never verified it, they
15 claimed it was broken, "they"-the reporters, the news people claimed it was
16 broken. They claimed that Met Ed did that purposely. They also claimed
17 that the afternoon before, that Met Ed had sent somebody out with a pocket
18 full of dimes to make sure that nobody else could use that telephone. I
19 don't know how true that is. I did sense, though, that many of the local
20 media people, news media people, were very antagonistic toward Met Ed.
21 Also, some of the local people, who happened up to the environmental van
22 where we were working out of for the first couple days, just wanted to chit
23 chat. One such person came up to me, I guess it was Thursday evening, the
24 29th, or it may have been Friday evening, and said that everybody working
25 at the plant was very tired and were overworked. Later on in the conversa-

1 tion I determined that he was, in fact, a worker at the plant. The reason I
2 presumed that he was bad mouthing the plant, was that only the licensed
3 operators were being given overtime. The unlicensed people, maintenance
4 crews, were only given a limited amount of overtime. I guess this was a
5 part of Met Ed's austerity program during the outage on Unit 1. We were
6 aware that there was a cash flow problem, or something to that effect, with
7 Met Ed and GPU because we had a management meeting with Met Ed about two
8 weeks previous to this, at which time they informed us of that, that they
9 would have to take some cost saving actions. So it did not come as a
10 surprise to me, to have the worker complaining.

11
12 MARTIN: Rick, I am going to ask you for some quick opinions here. How can
13 we improve the NRC's response to an event like this?

14
15 KEIMIG: Well, the first thing we need to do is to establish some type of
16 mobile office with telephones--to be available to call for instance, if we
17 want to take the Three Mile Island incident, to call from the Observation
18 Center, where we were based, into the control room to get update information,
19 and also to call back to the regional office. I guess in general, just
20 improve communications somehow. That includes our public affairs people.
21 I think communications is a big item. What else... We need more periodic
22 briefings--or not briefings as such but briefing papers--so that any inter-
23 ested party within NRC can get updated information. I think one of the
24 biggest problems in responding to this incident, from the NRC point of
25 view, is that somewhere information was not being properly communicated to

1 people who needed it. It seems to me that that information was readily
2 available here all day on Wednesday while I was in the office, and I'm sure
3 it didn't all of a sudden dissipate the following day. The information was
4 available, was being made available to Headquarters, and why it was not
5 getting to upper NRC management, I'll never know. Another thing I think we
6 should not be doing without running it through a review process, is making
7 recommendations to the licensee on what he should do with his plant. I
8 think there needs to be a type of review organization established within
9 NRR for these types of incidents, where they will sit down and before
10 anybody gives a licensee a recommendation, a team of NRR people will review
11 the recommendation to ensure that it's not going to do further damage.

12 MARTIN: Okay Rick, we appreciate it. I'll turn it back over to Bob to see
13 if he has anything?

14
15 MARSH: No, I have got nothing. I think we have covered what we can cover.
16

17 KEIMIG: I am sorry I couldn't help you out any more on the facts
18

19 MARSH: Well, I think you are floating at a little higher than where we've
20 been talking. We've been down more with the people who were on the survey
21 teams and all that, but certainly your insights also have got to be of
22 value also because it's a different perspective on what we are looking at.
23 With no more to go into then, I am going to terminate the tape at 2:36, and
24 I've got a reading of 702 on the meter. So we'd just like to say thank you
25

for your time, recognizing you are still busy. With that I am going to cut the tape.